

Serial Nr.: 10/772,933
Art Unit: 2821

04117-URS

AMENDMENTS TO THE SPECIFICATION:

Page 2, amend paragraph [0006] as:

[0006] Accordingly, the present invention is directed to a control circuit to be used along with an electronic ballast according to a prior art for a fluorescent lamp to eliminate ~~that obviate~~ the problems due to limitations and disadvantages of the related art.

Page 2, amend paragraph [0007] as:

[0007] An advantage of the present invention is to provide a control circuit that, when an abnormal high voltage due to a broken lamp tube, a gas leakage, and other problems ~~occurring~~ occur on a fluorescent lamp, prevents an electronic ballast from burning out and minimizes ~~[[a]]~~ the possibility of a fire accident.

Page 2, amend paragraph [0008] as:

[0008] Another advantage of the present invention is to provide a control circuit that, when an abnormal high voltage due to a broken lamp tube, a gas leakage and other problems ~~occur occurring~~ occur on a fluorescent lamp, automatically stops an oscillation circuit in an electronic ballast to continue output a high voltage so ~~so~~ ~~[[such]]~~ that a defective lamp tube can be removed safely.

Pages 2-3, amend paragraph [0010] as:

[0010] To achieve these advantages, a control circuit according to the present invention includes a protection circuit and an automatic re-lamp circuit. The protection circuit detects an abnormal high alternating current (AC) voltage at an output terminal of

Serial Nr.: 10/772,933
Art Unit: 2821

04117-URS

an electronic ballast and brings down an input direct current (DC) voltage to an oscillation circuit of the electronic ballast. The oscillation circuit thereby stops its oscillation and the electronic ballast ceases to output an AC voltage. On the other hand, the automatic re-lamp circuit, ~~when a new or functional lamp tube is installed~~, starts the oscillation circuit of the electronic ballast and therefore the newly installed lamp tube is lighted automatically when a new or functional lamp tube is installed.

Page 4, amend paragraph [0017] as:

[0017] The protection circuit connects an output terminal P8 of the electronic ballast to a ground via a capacitor C11 and a resistor R8 in a series connection. A junction between the capacitor C11 and resistor R8 is connected to an anode of a diode D12. A cathode of the diode D12 is then connected to a resistor R9 that in turn is connected to the ground via a capacitor C12. The resistor R9 and capacitor C12 forms an integrator circuit. The capacitor C12 is in a parallel connection with a resistor R10. The resistor R10, capacitor C12, and resistor R9 are all connected to a cathode of a Zener diode D13. An anode of the Zener diode D13 is connected to the ground via a capacitor C13 and to a gate of a SCR thyristor TH1. A cathode of the SCR thyristor TH1 is connected to the ground. On the other hand, an anode of the SCR thyristor TH1 is connected to a junction between a resistor R5 and a resistor R1 inside the electronic ballast and a cathode of a diode D11. An anode of the diode D11 is connected to a terminal P3 of a primary winding T1A of a driving transformer of the electronic ballast. As shown in FIG. 1, the output terminal P8 provides a high voltage to a first filament of the fluorescent lamp in the normal operation. The first filament is also connected to an output terminal P7. Another

Serial Nr.: 10/772,933
Art Unit: 2821

04117-URS

two output terminals P3 and P4 of the electronic ballast are connected to a second filament. The two output terminals P7 and P4 are connected by a capacitor C10.

Page 5, amend paragraph [0021] as:

[0021] The aforementioned protection circuit functions as follows. The abnormal high AC voltage at the terminal P8 is coupled to the diode D12 via the capacitor C11. The AC voltage is rectified by the diode D12 into a DC voltage and the DC voltage is applied to the Zener diode D13. When the DC voltage exceeds a working voltage V_z of the Zener diode D13, the Zener diode D13 is turned on and the DC voltage is applied to the gate of the SCR thyristor TH1. The SCR thyristor TH1 therefore enters an ON state and brings down an input voltage to the electronic ballast to a low level at the junction between the resistor R5 and resistor R1. The SCR thyristor TH1 is latched and remains in the ON state until the defective lamp tube is replaced.